

**REGION I EMERGENCY MEDICAL SERVICES  
STANDING MEDICAL ORDERS  
EMT – Paramedic**

**Procedure: Pediatric Intubation**

**Overview:** Endotracheal intubation is the preferred technique for airway control in patients who are unable to maintain a patent airway. The infant's upper airway is relatively small, and the tongue is disproportionately larger. The larger tongue easily obstructs the airway and tends to make laryngoscopy more difficult. The epiglottis is omega shaped narrower and longer in children than in adults making it more difficult to control with a laryngoscope blade. The larynx lies more anteriorly in relation to the base of the tongue than in the adult which could makes visualization more difficult.

**INFORMATION NEEDED**

- Initial assessment
- Age and size of patient

**OBJECTIVE FINDINGS**

**Endotracheal intubation is indicated when one or more of the following exists**

- The rescuer is unable to ventilate an unconscious patient with conventional methods (e.g., mouth-to-mask, BVM)
- When patients cannot protect their airway (e.g., due to coma or respiratory or cardiac arrest)
- When prolonged artificial ventilation is needed

**PROCEDURE**

- Manually open the airway
- Insert appropriate airway adjunct if needed
- Ventilate the patient with 100% oxygen via an age-appropriate sized bag
- Place the patient's head in the sniffing position if not contraindicated
- Preoxygenate patient with 100% oxygen
- Prepare all equipment
- Insert the laryngoscope to the right side of the patient's mouth and sweep the tongue to the left side
- Lift the tongue with firm, steady pressure, avoid using the teeth or gums as a fulcrum
- Use the tip of the blade to lift the epiglottis
- Identify the vocal cords
- Introduce the ET tube to the right side of the mouth
- Pass the tube through the vocal cords to about 2 to 3 cm below the vocal cords
- Confirm proper tube placement
  - Observe for symmetrical chest expansion
  - Auscultate for equal breath sounds over each lateral chest wall high in the axillae
  - Absence of breath sounds over the abdomen
  - Improved heart rate and color
  - If available, end-tidal carbon dioxide detector
- Secure the tube noting the placement of the distance marker at the teeth/gums
- Reconfirm the tube placement. One EMT must be responsible for maintaining tube position at all times. An E.T. tube is frequently dislodged during transport and movement of the patient.

7/04

Reviewed:

Revised:

EMS/ Region1 SMOs

**Documentation of adherence to protocol:**

\_\_\_ Confirmation of tube placement

**PRECAUTIONS AND COMMENTS**

\_\_\_ Straight blades are preferred for pediatric patients

\_\_\_ General blade size guidelines

- Premature infant: 0 straight
- Full-term infant to 1 year of age: 1 straight
- 2 years of age to adolescent: 2 straight
- Adolescent and older: 3 straight or curved

\_\_\_ One of the most reliable methods for determining appropriate ET tube size for the pediatric patient is using a length-based resuscitation tape. If a resuscitation tape is not available you may select a tube that is about the same diameter as the child's nostril or little finger

\_\_\_ Appropriate size ET tube—general guidelines

- Premature infant: 2.5, 3.0 uncuffed
- Term infant: 3.0, 3.5 uncuffed
- 6 months: 3.5, 4.0 uncuffed
- 1 year: 4.0, 4.5 uncuffed
- 2 years: 4.5, 5.0 uncuffed
- 4 years: 5.0, 5.5 uncuffed
- 6 years: 5.5 uncuffed
- 8 years: 6.0 cuffed or uncuffed
- 10 years: 6.5 cuffed or uncuffed
- 12 years: 7.0 cuffed
- Adolescent: 7.0, 8.0 cuffed

\_\_\_ Depth of insertion

- 2 to 3 cm below the vocal cords
- Uncuffed—place the black glottic marker of the tube at the level of the vocal cords
- Cuffed—insert until the cuff is just below the vocal cords